Energy Policy Update

NOVEMBER 18, 2013

The Energy Policy Update electronic newsletter is published by the Arizona Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by community outreach personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

UPCOMING WEBINARS

November 21: Tools for Designing & Implementing Better Clean Energy Financing Programs
Webinar Sponsor: EERE's Technical Assistance Program.
Click here to register.

November 22: Introduction to Pre-engineered Metal Building Envelope Commissioning
Webinar Sponsor: EERE's Commercial Buildings Integration Program. Click here to register.

December 5: Building an Effective Sustainable Enterprise GRC Program for Energy and Utility Organizations
Webinar Partners: EnergySec and MetricStream
Click here to register.

Arizona Master Energy Plan Stakeholder Meetings Schedule Announced
The following statewide Arizona Master Energy Plan Stakeholder Meetings have been scheduled. An overview of the Draft Master Energy Plan process will be presented by Leisa Brug, Director, Governor's Office of Energy Policy. Topics to be included in the plan (to be released in 2014) will be discussed followed by a question/answer session and public comment period.

Visit www.azenergy.gov/MEP.aspx for more information. Public comment forms are available on the website or by email request at odoherty@az.gov. Forms will need to be completed prior to public comment periods and/or will be accepted by email until 5pm on December 4, 2013.

Arizona Master Energy Plan Stakeholder Meeting - Tucson
Monday, November 25, 2013
1:00-3:00pm

Meeting Location
Arizona State Complex - Tucson
400 W. Congress, North Building
2nd Floor, Conference Room #222
Tucson, Arizona 85701

Arizona Master Energy Plan Stakeholder Meeting - Phoenix
Tuesday, November 26, 2013
2:00-4:00pm

Meeting Location
State Capitol Executive Tower
1700 W. Washington Street
2nf floor, Governor's Conference Room #200
Phoenix, Arizona 85007

Arizona Master Energy Plan Stakeholder Meeting - Flagstaff
Tuesday, December 3, 2013
12:00-2:00pm

Meeting Location: TBD

Arizona Master Energy Plan Stakeholder Meeting - Yuma
Wednesday, December 4, 2013
12:00-2:00pm

Meeting Location
Yuma City Hall
One City Plaza
Room #190
Yuma, Arizona 85364

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

Arizona Regulators Set New Course for Net Metering

[Electric Light & Power, Nov. 15] The Arizona Corporation Commission ruled that Arizona's net metering program should spread the cost of maintaining a reliable electrical grid more fairly among all Arizona Public Service (APS) customers. In a 3 to 2 vote, the regulators instituted a charge on future customers who install rooftop solar panels and directed APS to provide quarterly reports on the pace of rooftop solar adoption to assist the commission in considering further increases. The charge of $0.70 per kilowatt will be effective January 1, 2014, and is estimated to collect $4.90 per month from a typical future rooftop solar energy customer to help pay for their use of the electricity grid. The new policy will be in effect until the next APS rate case, which the ACC directed the company to file in 2015. In making its decision, the ACC determined that the current net metering program creates a cost shift, causing non-solar utility customers to pay higher rates to cover the costs of maintaining the electrical grid.

Certificate Program Trains Leaders for New Era of Water Management

[ASU News, Nov. 12] A new certificate offered at Arizona State University's College of Technology and Innovation (CTI) prepares water professionals with the skills and knowledge to meet the changing technological, environmental and political demands facing irrigation districts, city water managers, the mining industry and other major water users. In collaboration with the Agri-Business Council of Arizona and the Morrison School of Agribusiness, the new Water Management Certificate Program (WMCP) was created for key personnel who have been identified by their agencies or companies as the next generation of leaders in the water industry. Distinguished practitioners with many years of water resource and power management experience designed and now lead the program. "To my knowledge, the WMCP at ASU is the first effort of its kind in the industry," said Doug Miller, former General Counsel for the Central Arizona Project in Phoenix and a Water Management Certificate Program instructor. "Its goal is to give aspiring water managers a comprehensive grounding in all aspects of water management. The program covers the full range of relevant subject matters in depth and detail, from water law to operation and maintenance, from finance and the development of budgets to working with elected boards of directors, legislators and other political leaders."

Fluor Completes Construction of State-of-the-Art Solar Energy Facility in Arizona

[Power Engineering, Nov. 13] Fluor Corporation (NYSE: FLR) announced today that after two years of engineering, procurement and construction work, it achieved substantial completion of the Arlington Valley Solar Energy II facility for Arlington Valley Solar Energy II, LLC (AVSE II), a member of LS Power Group. The 125-megawatt facility in Maricopa County, Arizona – among the world's largest photovoltaic farms – has already begun supplying clean, renewable energy to the region. On May 1, 2013, the project announced the initial delivery of electric energy from the AVSE II facility. Fluor joined LS Power and Arizona Governor Jan Brewer at the site to celebrate the initial power

milestone. “This utility-scale solar project could not have been completed without the close cooperation between LS Power, the project stakeholders and Fluor’s project execution team,” said Matt McSorley, senior vice president of Fluor’s Power business. “We’re proud of the hard work of our engineering and construction teams, and we look forward to providing operations and maintenance services at the AVSE II facility.” We are pleased that Fluor has completed the construction of AVSE II in a safe manner, and ahead of schedule,” said John King, executive vice president of LS Power. “The project has benefitted from the efforts of countless contributors, and we’d like to thank them all.”

Google to Invest in Solar Farms in California and Arizona

[LA Times, Nov. 15] Google Inc. plans to invest $80 million in six utility-scale solar facilities in California and Arizona as the tech behemoth continues to put money toward alternative energy projects. The Mountain View, Calif., company will partner with solar developer Recurrent Energy and private equity firm KKR & Co. on the projects, which are estimated to generate enough combined electricity to power more than 17,000 homes, Google said in a blog post. "You'd think the thrill might wear off this whole renewable energy investing thing after a while," Google wrote on its official blog. "Nope -- we're still as into it as ever, which is why we're so pleased to announce our 14th investment." In 2011, Google hooked up with KKR and Recurrent on four solar facilities south of Sacramento that have since started generating power. The tech giant said it has committed more than $1 billion in total on green energy projects around the globe. The Wall Street Journal, which first reported the deal, said five of the new solar plants will be located in Southern California and the sixth will be in Arizona. Recurrent, based in San Francisco, will act as the operator and also already reached agreements with three electricity buyers who will purchase the power that is generated, the Journal said.

Regulators Approve Fee on APS Solar Customers

[Az Daily Star, Nov. 15] State utility regulators approved new fees for Arizona Public Service Co. customers with solar-energy systems, in a decision that could ultimately affect solar customers in Tucson. But the Arizona Corporation Commission, on its split vote Thursday, approved far lower fees than APS requested, and the charges will apply only to customers who have signed up to install solar after Dec. 31. After two days of often contentious debate, the commission decided on a 3-2 vote to impose a monthly fee of 70 cents for each kilowatt of solar-system capacity a customer owns, or about $5 a month for a typical 7-kilowatt home solar system. The charges are to be reviewed and may be changed based on more detailed data in APS’ next rate case.

Ribbon Cutting Held at Camp Verde Unified School District Solar Energy Installation

Event marked District's commitment to clean energy, power cost reduction

[PR Newswire, Nov. 18] Camp Verde, AZ – The Camp Verde Unified School District (CVUSD) has held a ribbon cutting ceremony to officially open its solar power installations. Comprising 1,628 solar panels made by Canadian Solar and 533 panels made by Trina Solar, the 609 kW DC installation will produce 1,039.46 MW hours annually, helping to offset the Arizona District's energy usage and provide a hedge against rising utility costs. Enfinity America Corporation provided project finance and also owns and operates the solar installations under a 15-year Solar Service Agreement. Ameresco provided the engineering, procurement and construction (EPC) services for the solar installations. "This project is the culmination of a vision and plan developed by the administration and School Board to bring maximum benefit to the District, its staff and students, while minimizing expenses and taxation impacts for their residents," said Bob Georgeoff, Ameresco Vice President.

Solar Settlement Boon to Installers

[Az Daily, Nov. 17] When it comes bringing electricity to far-flung homes on Arizona Indian reservations, it’s not just a matter of hooking them up to a power line. Many are far off the grid, which until the advent of solar power meant gas-fired and battery-operated appliances were the closest thing to power on the Rez and elsewhere. But five

years ago, a $5 million settlement in a dispute over pollution controls at a coal-fired power plant in Springerville resulted in a windfall of solar power on the Rez — and plenty of business for solar installation companies. One of those is Westwind Solar of Flagstaff, which has done about a dozen installations financed in part by the grant. “We’re a small company, so we’ve been very busy,” said owner Daniel Snyder last week after returning from one of his projects in Kykotsmovi on the Hopi Reservation. In all, the settlement has paid in whole or in part for about 200 projects by eight different companies, with only $300,000 left to distribute. Roger Clark, program director at the Grand Canyon Trust and administrator of the fund, said sites on four reservations — Navajo, Hopi, Zuni and Hualapai — were selected for solar projects because of their off-the-grid needs and locations in the fallout zone of power plant pollution. “It’s been the most rewarding work I’ve ever done for the Trust,” said Clark, adding that he has traveled to most of the installations. The projects initially were focused in the Bennett Freeze area of the western Navajo Nation, where a land dispute between the Navajos and Hopis caused a judge to freeze all construction and repairs for nearly a half-century.

ALTERNATIVE ENERGY AND EFFICIENCY

2013 Completions of Large Solar Thermal Power Plants Mark Technology Gains

[EIA.gov, Nov. 14] Several large, new solar thermal power plants are expected to begin commercial operation by the end of 2013, more than doubling the solar thermal generating capacity in the United States. The projects use different solar thermal technologies and storage options. Abengoa's Solana plant, which came on line in October 2013, is a 250-megawatt (MW) parabolic trough plant in Gila Bend, Arizona with integrated thermal storage. BrightSource's Ivanpah, expected to enter service by the end of 2013, is a 391-MW power tower plant in California's Mojave Desert and does not include storage. Solana and Ivanpah are much larger than solar thermal plants that have previously entered service in the United States. Over the past decade, a few smaller-scale and demonstration solar thermal projects have entered service. The only other dedicated solar thermal plants larger than 10 MW in the United States are the series of Solar Energy Generating System (SEGS) plants built in California in the 1980s and early 1990s and the Nevada Solar One parabolic trough project completed in 2007. EIA projections for total solar thermal capacity additions in 2013 and 2014 include six projects for a total of 1,257 MW, with more expected in 2015 and 2016. However, while these solar thermal capacity additions are significant for the technology, they represent only 4% of total expected capacity additions for 2013 and 2014 (see chart below). Solar thermal capacity additions also continue to be outpaced by solar photovoltaic (PV) capacity additions, even though solar PV has only meaningfully entered the utility-scale market in the past few years.

Ethanol Supporters Say the Numbers Support their Industry

[wcfcourier.com website, Nov. 17] DES MOINES | Proponents of ethanol have a four-letter response for critics of biofuel: “Bunk.” Monte Shaw, executive director of the Des Moines-based Iowa Renewable Fuels Association, is among a number of vocal ethanol defenders leading the counter-charge. Critics say ethanol is more damaging to the environment than politicians, including President Barack Obama, have let on. They say farmers rushing to get in on the rush to ethanol, have wiped out millions of acres of conservation land, destroyed habitat and contaminated water supplies. The Conservation Reserve Program (CRP) and the Wetlands Reserve Program (WRP) pay U.S. producers to retire cropland in order to protect soil, improve water quality, enhance wildlife habitat, and otherwise safeguard environmental quality, according to the U.S. Department of Agriculture. The agency said projected land retirement payments of $13 billion between 2008 and 2012 would represent about half of USDA conservation program spending. USDA notes that while CRP acreage was slated to get smaller, acreage in restored wetlands and other “high-value practices” is likely to increase. A growing portion of CRP acres, over 4 million acres in 2008, are enrolled via “continuous” signups that target more environmentally sensitive lands, such as streamside buffers, farmable wetlands, prairie potholes, and upland bird habitat. The 2008 farm act

increased the WRP acreage cap from 2.275 to 3.041 million acres—just over 1 million acres more than the current cap. So, the claims that ethanol is responsible for any shrinkage in CRP land is wrong, Shaw said. “This is inaccurate rhetoric,” Shaw said, responding to an Associated Press story that claimed ethanol had caused 5 million acres of land to be removed from the CRP since Obama took office in 2009.

Geothermal's Place in the U.S. Power Grid

[Fierce Energy, Nov. 12] As states like California move forward with more aggressive Renewable Portfolio Standards (RPS) and seek to reduce greenhouse gas emissions, state officials need to consider the full value of the power sources they use, which is critical to ensuring that consumers get the most affordable overall system cost and recognizing the different reasons for choosing clean power sources. The California PUC recently noted active questions before policy makers in California and elsewhere, specifically: How increasing amounts of intermittent generation are impacting grid reliability, quantifying the impact and benefits of various resources to integrate intermittent generation, and what new policies should be adopted to manage the changing electric grid? These questions are gaining in importance as the United States expands its renewable power production, which today means generating approximately 14 percent of the electricity nationwide. Much of this is coming from wind and solar photovoltaic technologies that rely heavily on the prevailing weather conditions in order to generate power. New research from the Geothermal Energy Association (GEA) and Geothermal Resources Council (GRC) looks at geothermal as an alternative to intermittent renewable resources. "Geothermal power offers both firm and flexible solutions to the changing U.S. power system by providing a range of services including but not limited to baseload, regulation, load following or energy imbalance, spinning reserve, non-spinning reserve, and replacement or supplemental reserve," according to the research. The report contends that geothermal power production represents predictable output and long-lasting resources that quickly adjust to fit the needs set by variable renewable energy technologies .

Helping Smaller Buildings Retrocommission

[Energy Manager Toda, Nov. 13] Scientists at Lawrence Berkeley National Laboratory and Pacific Northwest National Laboratory are developing a “Retrocommissioning Sensor Suitcase” to help small and medium sized buildings reap the energy savings of retrocommissioning, which only large buildings have traditionally been able to afford. Fine tuning of building systems, known as retrocommissioning, can save as much as 15 percent of a building’s annual energy use and pay for itself in less than a year, according to Berkeley Lab. The Retrocommissioning Sensor Suitcase project is funded by the DOE’s Office of Energy Efficiency and Renewable Energy, Building Technologies Office. The turnkey product is embedding the knowledge and skills of an experienced building commissioning practitioner into a scalable hardware and software package that can be deployed by a variety of building services personnel. The product will contain a set of different types of portable building sensors, a handheld smart pad for documenting the location, placement and sensor type, a battery, and a data control module that can receive and pre-process data from the sensors, which are distributed throughout the building. The data module communicates wirelessly with the smart pad, which launches sensors during their installation. The Retrocommissioning Sensor Suitcase is targeted for use in small commercial buildings of less than 50,000 square feet of floor space that regularly receive basic services such as maintenance and repair, but don’t have in-house energy management staff or buildings experts.

Solar Carports USA Wants to Aesthetically Please

[MyDesert.com, Nov. 16] Palm Desert, CA – The word “elegant” does not normally leap to mind when describing carports. The steel structures, increasingly used to install solar panels in large parking lots, tend to be oversized, industrial affairs — the new solar carports at Palm Springs and Cathedral City high schools being a case in point. But pull into the parking lot at the H.N. and Frances C. Berger Foundation Charitable Center in Palm Desert, and you may experience a sudden shift in carport consciousness. Installed

earlier this year, the brick red and black structures are unobtrusively designed with clean lines and a low profile that leaves the surrounding mountain vistas untouched. They also contain 500 kilowatts of neatly hidden solar panels silently pumping out about two-thirds of the power used by the mostly nonprofit tenants at the Berger Foundation campus. "The parking structure should be there as the completion of any building and blend in so people walking by see a nice complete structure," said Joe Portolesi, the longtime Coachella Valley builder behind the Berger installation. "But here you've got on top this full power plant you've made available. You've cut down all the need for extra power plants.

ENERGY/GENERAL

A Push Away From Burning Coal as an Energy Source

[New York Times, Nov. 14] The Tennessee Valley Authority sharply accelerated a shift away from coal as an energy source on Thursday, saying it would shut down eight electricity-generating units that together will burn nearly a fifth of its coal this year. The closings are part of a long-term strategy, also announced Thursday, for the authority to generate 20 percent of its electricity from coal, instead of the current 38 percent. It also plans to increase the use of renewable energy sources like solar and hydropower to 20 percent, from the current 15.7 percent. The authority's chief executive, Bill Johnson, said experts were studying whether more coal-fired plants should be shut down later.

Energy Department Invests Over $7 Million to Deploy Tribal Clean Energy Projects

[Energy.gov, Nov. 14] WASHINGTON – As part of the Obama Administration's commitment to strengthening partnerships with Tribal nations and building stronger, more resilient communities that are better prepared for a changing climate, the Energy Department today announced nine tribal clean energy projects to receive more than $7 million. Highlighted during the 2013 White House Tribal Nations Conference, these awards will help American Indian and Alaska Native tribes deploy clean energy projects – saving these communities money, enhancing their energy security and creating new job and business opportunities. "American Indian and Alaska Native tribes host a wide range of untapped energy resources that can help build a sustainable energy future for their local communities," Energy Secretary Ernest Moniz said. "Responsible development of these clean energy resources will help cut energy waste and fight the harmful effects of carbon pollution – strengthening energy security of Tribal nations throughout the country." According to a recent study by the Energy Department's National Renewable Energy Laboratory, American Indian land comprises two percent of the U.S. land, but contains an estimated five percent of all U.S. renewable energy resources.

The Next Big Innovation in Renewable Energy Won't Be Technological

It will be financial.

[The Atlantic, Nov. 11] Silicon Valley solar company SolarCity last week quietly did something that could revolutionize renewable energy in the United States. No, the company did not invent a radically more efficient or cheaper photovoltaic panel. Rather, it announced it plans to sell $54 million in asset-backed securities. And that is a very big deal, even if the dollar amount of the notes on offer is rather small. That's because the assets backing the securities are leases for some of the rooftop solar systems it has installed on homes across the country. Hundreds of millions of dollars in solar leases have been signed in the U.S. in recent years. If those leases can be bundled and sold to pension funds and other investors, "solar securitization" could open up a potentially huge new pool of capital that could be tapped to finance the expansion of renewable energy as federal and state tax breaks for renewable energy begin to expire. For homeowners and businesses, solar securitization could translate into cheaper electricity. A SolarCity spokesman declined to comment on the securities offering. Much of the innovation responsible for the solar industry's explosive growth has been financial rather than technological. Half the U.S.'s solar capacity, for instance, was installed just in 2012. Driving those sales was the ability of homeowners to avoid the five-figure cost of a

photovoltaic system by leasing it for a monthly payment that often is lower than what they'd pay their local utility. Anywhere between 75 and 90 percent of all solar systems are now leased as a result.

INDUSTRIES AND TECHNOLOGIES

Application Periods Open for 2014 National Clean Energy Business Plan Competition's Regional Contests

[Energy.gov, Nov. 12] The Energy Department today announced the opening of the application periods for six regional competitions that are part of the 2014 U.S. Department of Energy National Clean Energy Business Plan Competition. The competition aims to inspires university teams and promote entrepreneurship in clean energy technologies that will boost American competitiveness, bring cutting-edge clean energy solutions to the market, and strengthen our economic prosperity. The National Clean Energy Business Plan Competition challenges university teams from across the country to create new businesses and commercialize promising energy technologies developed at U.S. universities and the national laboratories. Finalists from the regional contests announced today will be invited to compete in the third annual national competition this spring in Washington, D.C. At the national competition, finalists will compete for cash prizes as well as unique technical, design, public relations, and legal assistance to help commercialize their technology.

DOE to Loan $8bn to Develop Fossil Fuel Technology

[Power Engineering, Nov. 14] Although the U.S. Department of Energy's Loan Program Office's power generation focus has mostly been on renewable energy projects, the office will soon be branching out into fossil fuel projects with $8 billion in loans. Peter Davidson, executive director of the office, spoke about soliciting proposals for loans for the development of innovative fossil fuel-fired projects at the keynote luncheon for the POWER-GEN International Financial Forum. "This is the beginning of our process," he said. "We will be finalizing this and issuing the finals rules and instructions within the next few weeks." The goal of the Loan Program Office is the provide loans for promising new technology that has progressed beyond the research and development stage, but has not been tested on a commercial scale and may not be financed by private investors. The office looks to finance the several facilities that can prove the technology and provide lessons for developers building future plants using the same technology.

Fleets of Networked Water Heaters Help Utilities Manage the Grid

[Energy Manager Today, Nov. 12] The US Patent and Trademark Office issued a patent to Sequentric Energy Systems for its variable-capacity, grid-interactive water heating technology. Designed specifically for electric utility energy storage and grid management programs, Sequentric's variable-capacity technology allows grid operators to manage second-by-second timing of the electricity required for water heating. Sequentric's technology provides the ability to pre-heat the incoming cold water in a way that is essentially decoupled from the customer's hour-by-hour hot water usage. This makes a number of energy products possible for the utility, including traditional demand response and energy storage. In addition, it guarantees a constant supply of safe hot water for the utility's customers at all times. The technology can be incorporated into any brand of storage tank electric water heater. Sequentric has begun licensing discussions with water heater manufacturers.

Integrated Solar PV Polysilicon and Wafer Suppliers to Drive Production Costs Below $0.20 per Watt in 2014, According to NPD Solarbuzz

[Solarbuzz.com, Nov. 18] Santa Clara, CA – Average costs for vertically integrated tier 1 makers are now forecast to fall yet another 6 percent in 2014 to a record low of $0.20 per watt (W), according to the NPD Solarbuzz *Polysilicon and Wafer Supply Chain Quarterly* report. Since 2008, solar PV wafer manufacturing costs (the combined costs of polysilicon and wafer processing) have declined more than 16 percent per year. Wafer costs are only a third of what they were five years ago, and even though the rapid pace

of cost reduction is starting to decline, the severe oversupply and extremely low selling prices are forcing polysilicon and wafer makers to continue to find ways to lower costs to previously assumed impossible levels," said Charles Annis, vice president at NPD Solarbuzz. On the polysilicon side, manufacturers are relocating capacity to areas with low electricity prices, building new fluidized bed reactor (FBR) plants or converting Siemens capacity to FBR, reducing power consumption, increasing plant productivity, and even building in-house power plants. Recently, multiple leading polysilicon producers have suggested they can cut Siemens costs to less than $14 per kilogram (kg) in the near future, and FBR costs to less than $10 per kg within a few years.

LEGISLATION AND REGULATION

LEED Green Building Projects Near 60,000 Globally

[Clean Edge News, Nov. 15] The U.S. Green Building Council (USGBC) has released its second installment of the LEED in Motion report series: Places and Policies. The report states that there are nearly 60,000 LEED green building projects across the globe, spanning 10.6 billion square feet. Notably, Canada, India, China, the United Arab Emirates and Brazil lead the way for countries with the highest number of projects outside the U.S. The first section of the report showcases in-depth statistics and graphics on LEED projects and areas of growth around the world, with a sub-section for projects in the U.S. as well as global projects. Canada leads the way in LEED projects outside the U.S. with 4,375 projects, followed by India with 1,586, China with 1,282, UAE with 816 and Brazil with 717 LEED-certified green building projects. The second section examines domestic and international policies and partnerships that support the framework of LEED and drive global progress. 400+ localities have LEED-specific policies in place. Globally, there are nearly 100 green building councils in various stages of development, a LEED International Roundtable with members from 30 countries and newly launched Alternative Compliance Paths and Regional Priority Credits for LEED, which provide flexible, regionally-focused approaches to LEED credits for projects outside the U.S.

Obama Turns to Good News - Progress on Energy, Emissions

[Reuters, Nov. 16] WASHINGTON – U. S. President Barack Obama on Saturday boasted of the nation's progress in cutting dependence on foreign energy sources and lowering pollution levels, saying that the United States is now poised to control its own energy future. In his weekly radio address, Obama noted that for the first time in nearly two decades, the United States is producing more oil than it purchases from other countries and is seeing more jobs created in the energy sector. "That's a big deal. That's a tremendous step towards American energy independence," Obama said.

Utilities, Regulators Vital to Aging Water Infrastructure

[Fierce Energy, Nov. 14] The U.S. Environmental Protection Agency released survey results recently showing the need for a nationwide investment of $384 billion through 2030 for drinking water system repairs and improvements. This includes thousands of miles of pipes and thousands of treatment plants, storage tanks and water distribution systems, which are all vital to public health and the economy. Public-private partnerships can play a role in rehabilitating the nation's aging water and wastewater infrastructure, according to Tom Roberts, president of Aqua North Carolina, which has spent more than $11 million to repair and improve water and wastewater systems throughout the state. "Reliable water and wastewater services are necessities of life, and our country needs to make sure that the pipes, treatment plants, wells, tanks and fire hydrants that deliver these services are properly maintained now and in the future," said Roberts. "We can't rely on state and local governments to bear all the costs of this massive undertaking. Private, publicly regulated utilities can work with governments to provide the financial resources and technical expertise needed to repair and operate aging systems."

Who Wins After EPA Cuts Biofuel Requirements?

[Yahoo News, Nov. 16] As expected, the U.S. Environmental Protection Agency (EPA)

issued proposed rules on Friday to reduce the amount of ethanol required to be blended with gasoline in 2014. After a 60-day comment period the EPA will publish final rules that may incorporate some of the comments it receives. The proposed reduction represent a huge win for oil refiners and a nasty blow to ethanol producers and farmers. The Energy Independence and Security Act of 2007 mandated production and blending of 18.15 billion gallons of biofuels in the U.S. motor fuel supply for 2014. Of that total, 14.4 billion gallons was slated to be corn-based ethanol. The EPA's proposed rules cut the total amount of required renewable biofuels to 15.21 billion gallons, of which 12.7 billion to 13.2 billion gallons would be corn-based ethanol. When the 2007 law was enacted, the Energy Information Administration (EIA) estimated that demand for gasoline would reach 154 billion gallons in 2014. The most recent estimate sets demand at just 133 billion gallons. That means that the mandated supply total of 15.21 billion gallons would exceed 10% of all the motor fuel expected to be sold in the U.S. next year. Thus refiners are faced with making a fuel blend that is more than 10% ethanol or buying renewable fuel credits, called RINs, to offset the amount of renewable fuel they did not mix with their gasoline. This is what the industry calls the "blend wall." The EPA claims it has the authority under the 2007 law to scale back the mandated volumes in certain situations, including inadequate supply or economic hardship, but an ethanol industry group, the Renewable Fuels Association (RFA), disputes that and has fought hard to retain the original volumes. The association managed to get the EPA to approve an ethanol blend of 15% (E15) for use in U.S. cars, but adoption of E15 has been virtually non-existent because consumers won't buy it.

WESTERN POWER

Feds Release Draft Sage Grouse Plans for Western States

[Energy Prospects West, Nov. 12] The U.S. Bureau of Land Management has released draft land-use plans for protecting sage grouse habitat on federal land in six western states, ahead of an anticipated ESA listing in 2015 that could have wide-ranging impact on energy development throughout the West. The draft proposals, released Nov. 1, cover millions of acres of BLM and U.S. Forest Service land in Idaho, Nevada, and Utah, and in portions of California, Montana, and Wyoming, and aim to balance protection of the bird's habitat with energy development and other uses of the land. The public has 90 days to comment on the proposed plans.

Interior Approves New High-Voltage Interstate Transmission Line Project in Wyoming and Idaho

[U.S. Dept. of Interior, Nov. 12] Washington, D.C. – As part of President Obama's comprehensive strategy for transforming the nation's electric grid and spurring the development of renewable energy, Secretary of the Interior Sally Jewell today announced approval of the majority of the proposed Gateway West Transmission Line Project, a 990-mile, high-voltage line that will provide up to 1,500 megawatts of transmission capacity in southern Wyoming and southern Idaho. "Gateway West is a high priority project of the President's power infrastructure initiative – a common-sense approach that is speeding job creation in the near-term while spurring the economy and increasing the nation's competitiveness in the long-term," said Jewell. "The line will strengthen the Western grid, bringing a diversified portfolio of renewable and conventional energy to meet the region's projected growth in electricity demand." Gateway West is one of seven priority projects of the Obama Administration's Rapid Response Team for Transmission, which aims to improve the overall quality and timeliness of electric transmission infrastructure permitting. When built, these projects will help increase electric reliability, integrate new renewable energy into the grid, and save consumers money. In particular, the Gateway West project expects to tap into the abundant wind energy resources that are being developed in this region of the country, such as in southern Wyoming.

Navajo Nation Bets on Coal

[Energy Prospects West, Nov. 12] The Navajo Nation adopted a new energy policy Oct.

22, nine days before a new tribal corporation struck a deal to purchase the Navajo Mine for $85 million from BHP Billiton. The Energy Policy of 2013 calls for developing a diversified portfolio of energy resources, but also emphasizes the important role coal plays in the Navajo economy. "The current policies of the federal government of the United States do not favor the use of coal," and these policies "are contrary to the interests of the Navajo Nation," the new policy says. The Navajo Transitional Energy Co. signed an agreement Oct. 31 with BHP Billiton, based in Australia, to purchase the Navajo Mine, which supplies the Four Corners Power Plant. Navajo President Ben Shelly called the action important to save over 800 jobs and millions in annual revenue for the tribe. With the new energy policy and acquiring the mine, "we are solidifying a Navajo energy future that includes coal, solar, wind, gas, oil and other forms of energy," he said. Ownership will transfer Dec. 1, but BHP Billiton will operate the mine until 2016.

Debating the Future of Texas Electricity in Dallas

[Dallas Business Journal, Nov. 15] Nobody wants power outages or rolling blackouts. It's whether Texans should have a new charge on their electric bills to spark new generation construction that's caused so much debate in Austin and throughout the state. Electricity generators say Texas needs to switch to a capacity market where they get paid not only for the energy they produce but for their total available capacity. It's called a capacity market and it's already in place in Pennsylvania, New Jersey and Maryland. But will it work in Texas? The divisive issue has been front and center at the Texas Public Utility Commission, which could make a decision early next year. Commissioner Ken Anderson has made it clear he opposes the move while Chairwoman Donna Nelson says she fully supports it. Newly appointed Commissioner Brandy Marty hasn't come out on either side, but has recently indicated she would side with Nelson.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- Angel Investment Tax Credit Program - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here. LEARN MORE

- Arizona Innovation Accelerator Fund - The Arizona Innovation Accelerator Fund Program is an $18.2 million loan participation program funded through the U.S. Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona. LEARN MORE

- Arizona Innovation Challenge - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award $1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from $100,000 to $250,000). LEARN MORE

- AZ Fast Grant - Enables Arizona-based technology companies to initiate the commercialization process. Total funds available for this grant round are $175,000. Maximum awards of $5,000 and $20,000 will enable companies to accomplish one of four scopes of work. LEARN MORE

- AZ Step Grant - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets. LEARN MORE

- Commercial/Industrial Solar Energy Tax Credit Program - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. LEARN MORE

- Healthy Forest - The primary goal of the Healthy Forest Enterprise Incentives Program is to promote forest health in Arizona. The program achieves this by proving incentives for certified businesses that are primarily engaged in harvesting, processing or transporting of qualifying forest products. LEARN MORE

- Job Training Program offers job-specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round. LEARN MORE

- Renewable Energy Tax Incentive Program offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round. LEARN MORE

- Research and Development Tax Credit is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue. LEARN MORE

Quality Jobs Tax Credit Program - The primary goal of the Quality Jobs Tax Credit program is to encourage business investment and the creation of high-quality employment opportunities in the state. The program accomplishes this goal by providing tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. LEARN MORE

- **Bonds Administered by the Arizona Commerce Authority**
  - Private Activity Bonds (PAB) - Tax exempt bond financing, for federal purposes, offers an alternative financing mechanism for certain projects. LEARN MORE
  - Qualified Energy Conservation Bonds (QECB) - Tax credit bonds are available as an alternative financing mechanism for certain green projects. LEARN MORE

- **Federal Programs**
  - Small Business Innovation Research (SBIR) Program - SBIR is a competitive program that encourages small businesses to explore their technological potential, as well as, providing incentive to profit from its commercialization. LEARN MORE
  - Small Business Technology Transfer (STTR) Program - STTR is an important small business program that expands funding opportunities to meet the nation's scientific and technological challenges in the 21st century. LEARN MORE
  - Work Opportunity - The Work Opportunity Tax Credit (WOTC) is a federal tax credit of up to $9,000 that Congress provides to private-sector businesses for hiring individuals from nine target groups who have consistently faced significant barriers to employment. LEARN MORE

- Pollution Control Tax Credit - Provides a 10 percent income tax credit on the purchase price of real or personal property used to control or prevent pollution.

- Renewable Energy Production Tax Credit - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

- Sales Tax Exemption for Machinery and Equipment
  Exemptions are available for:

  1. Machinery or equipment used directly in manufacturing, see ARS 42-5159(B)(1).
  2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see ARS 42-5159(B)(4).
  3. Machinery or equipment used in research and development, see ARS 42-5159(B) (14).

  Questions can be directed to Christie Comanita (602-716-6791).

- Solar Liquid Fuel Tax Credit - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

- Database of State Incentives for Renewables and Efficiency (DSIRE)
  - Arizona Incentives/Policies
  - Federal Incentives/Policies
  - Solar Policy News - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- SunShot Initiative - Responses due November 20, 2014
- SBIR/STTR FY 2014 Phase II Release 1, Reference Number: DE-FOA-0001019 – Response Due Date: December 10, 2013 11:59:00 AM ES
- U.S. Dept. of Energy Solar Decathlon 2015, Funding Number: DE-FOA-0000959, Response Due Date, December 20, 2013
- Solid Waste Management Grant - Response due December 31, 2013
- Energy Frontier Research Centers – Response due by January 9, 2014
- Research and Development for Hydrogen Storage – Response due January 17, 2014
- Hydrogen Delivery Technologies – Response due by February 14, 2014
- Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) –

Response due by February 18, 2014

- Environmental Sustainability - Response due February 20, 2014
- Energy for Sustainability - Response due February 20, 2014
- Environmental Health and Safety of Nanotechnology - Response due February 20, 2014
- Particulate and Multiphase Processes- Response due February 20, 2014
- Thermal Transport Processes - Response due February 20, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31,2014
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants– Ongoing
- Rural Business Opportunity Grants– Ongoing
- Sustainable Agriculture Research and Education Grants – Ongoing
- Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines

ENERGY-RELATED EVENTS

2013

- Legal Landscape of Tribal Renewable Energy Development CLE Conference
  November 21-22 ASU – Tempe, AZ
- GreenBuild International Conference and Expo
  November 20-22 Philadelphia, PA
- GoGreen Phoenix 2013
  December 3 Phoenix, AZ
- Ecobuild America 2013
  December 9-13 Washington, D.C.
- ASU Sustainability Series Events
- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ

2014

- Energy, Utility & Environment Conference
  February 3-5, 2014 Phoenix, AZ
- 2014 Energy Outlook Conference
  February 4-7, 2014 Washington, DC
- Sustainability Solutions Festival
  February 17-22, 2014 Phoenix, AZ
- Arizona Solar Summit IV
  February 20, 2014 Phoenix, AZ

- Green Biz Forum 2014
  February 18-20, 2014 Phoenix, AZ
- International Geothermal Energy Forum
  April 23-24, 2014 Washington, DC
- National Geothermal Summit
  August 5-6, 2014 Reno, NV
- Geothermal Energy Expo
  September 28-October 1, 2014 Portland, OR
- ASU Sustainability Series Events
- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ